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EXAMINER	
PHAM, HAI CHI	
ART UNIT	PAPER NUMBER
2861	

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/663,399

Applicant(s)

BRONSON, BARRY

Examiner

Hai C Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☒ Claim(s) 1-16, 19-22, 24, 26-30 and 32 is/are rejected.
- 7) ☒ Claim(s) 17, 18, 25, 31 and 33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09/15/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 12 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirotsune et al. (U.S. 6,532,034).

Hirotsune et al. discloses an optical disk apparatus and a method for writing figures on a disk storage medium, the method comprising the steps of loading (via input means 280) a symbol set (figures consisting of letters and pictures to be written on the surface of the optical disk 201) to a processor (system controller 250) controlling a disk drive (motor 220), with said symbol set including one or more predetermined symbols or graphics to be written to said disk storage medium, reading one or more types of

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embedded information of pre-recorded data on said disk storage medium (ID information pre-recorded on the disk indicating the kind of disk as well as the sector arrangement on the optical disk) (col. 8, lines 32-37), heating with a laser (211) a thermally-sensitive layer (having a phase-change material subject to a structural change upon heating, for example, from amorphous to crystalline or vice-versa) formed on at least a portion of an upper surface of said disk storage medium, and manipulating said laser (via laser driving 230) with respect to said disk storage medium, wherein said symbol set in conjunction with said one or more types of embedded information of pre-recorded data is used to control the manipulating step in order to write said one or more predetermined symbols or graphics to said thermally-sensitive layer (the positioning and synchronizing of the optical laser head 210 being performed based on the pre-recorded information) (col. 9, lines 31-34).

With regard to claim 21, Hirotsune et al. further teaches rotating said disk storage medium (via motor 220), transversely moving said laser with respect to said disk storage medium (the optical head being radially moved with respect to the optical disk 201), tracking a rotational position of said disk storage medium in a rotational position variable, and tracking a transverse position of said laser in a transverse position variable, wherein said rotational position and said transverse position are used by said processor for manipulating said laser with respect to said disk storage medium (positioning, synchronizing and access at the time of figure writing being accomplished according to tracking signals) (col. 8, lines 32-39).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5, 7, 10-11, 22-24, 26, 28-29, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotsune et al. (U.S. 6,532,034) in view of Heemskerk et al. (U.S. 6,310,838).

Hirotsune et al. discloses an optical disk apparatus and a method for writing figures on a disk storage medium having a thermally-sensitive layer (having a phase-change material subject to a structural change upon heating, for example, from amorphous to crystalline or vice-versa) and embedded disk information with pre-recorded data formed on at least a portion of the surface of the disk storage medium (ID information pre-recorded on the disk indicating the kind of disk as well as the reproducing signals of a pit) (col. 8, lines 32-47), the apparatus comprising a rotational drive (motor 220, Fig. 1) for rotating said disk storage medium (201), a transverse drive (not shown) including a laser head (optical head 210) for moving a laser (211) substantially transversely with respect to said disk storage medium (the optical head 210 being capable of moving in the radial direction of the optical disk), a memory (file system 311 to receive the data recording as well as the figure writing inputted from the input means 280) including a symbol set and a label printer driver (device driver 312), and a processor (system controller 250) communicating with said memory, said

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rotational drive, said transverse drive, and said laser, and wherein said processor uses said label printer driver to control said rotational drive and said transverse drive in order to thermally write said symbol set to said thermally-sensitive layer of said disk storage medium using said laser.

However, Hirotsune et al. fails to teach the pre-recorded data providing the required laser power of the laser (claims 1, 7, 22, 23), and the read and use of the alignment marks for manipulating the means for heating or laser in order to write the figures (claim 11, 24).

Heemskerk et al. discloses an optical record carrier having pre-recorded information, which includes laser power in a system area (col. 8, lines 2-5) along with pre-recorded alignment marks (or address marks), which enables positioning of the read/write head anywhere on the still unrecorded surface of the record carrier (col. 4, lines 14-48), the recording layer being heated by a laser light during recording to produce a structural change of the recording layer.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the pre-recorded alignment marks as well as the information on the required laser power for writing in the device of Hirotsune et al. because Heemskerk et al. teaches this to be known in the art to allow accurate positioning of the optical laser head with respect to the optical disk during the writing operation.

Hirotsune et al. further teaches :

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- a rotational position variable that tracks a rotational position of said disk storage medium (Figs. 10-11),
- a transverse position variable that tracks a transverse position of said laser head,
- said laser head comprises a read laser (not shown, such that pre-recorded information can be read) and a writing laser (211) positioned below said disk storage medium, with said writing laser being used to thermally write to said thermally-sensitive layer (having phase-change material),
- means for heating being a laser,
- means for detecting existing symbols or graphics (which are pre-recorded in the ROM region 1910) (col. 12, lines 21-24), and means for detecting an empty area on the thermally sensitive layer (RAM region 1920 being used to write the figures, symbols or letters, the sector arrangement being provided by pre-recorded information),
- means for allowing a user to view and modify the existing symbols and graphics (col. 11, lines 37-46),
- means for storing a label data file within the thermally sensitive layer (ROM region 1910).

5. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotsune et al. in view of Heemskerk et al., as applied to claim 1 and 7 above, and further in view of Kahle (U.S. 6,074,031).

Hirotsune et al., as modified, discloses all the basic limitations of the claimed invention except for the separate label printer being positioned above the optical disk while the read/write laser head is disposed below the optical disk.

Kahle, an acknowledged prior art, discloses a method and apparatus for printing labels on digital recording media, the apparatus includes an independent label printer (12) positioned above the optical disk, separate from the read/write laser head disposed on the other side of the disk (col. 4, lines 45-65).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Hirotsune et al. with the aforementioned teachings of Kahle. The motivation for doing so would have been to allow both data recording and figure writing operations to be performed simultaneously.

6. Claims 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotsune et al. in view of Heemskerk et al., as applied to claim 24 above, and further in view of Wen et al. (U.S. 6,019,151).

Hirotsune et al., as modified, discloses all the basic limitations of the claimed invention except for the heating means being a thermal writing head, and the label being composed of different colors disposed in a pattern within the thermally sensitive layer.

Wen et al. discloses an apparatus for printing images on the label area of a compact disk (22) using a thermal print head (28) and a donor web (26) having a plurality of colored dye patches.



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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a thermal label printer in the modified device of Hirotsune et al. because Wen et al. teaches this to be known in the printing art that a variety of printing engine types can be used to print label on the surface of a compact disk.

7. Alternatively, claims 1-5, 7-8, 10-16, 19-22, 24, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (Pub. No. U.S. 2002/0191517) in view of Heemskerk et al.

Honda et al., an acknowledged prior art, discloses a method and apparatus for printing label on an optical disk, which comprises a disk storage medium (optical disk 10) including a thermally-sensitive layer (heat-sensitive layer 18) (paragraph [0030]) formed on at least a portion of an upper surface of said disk storage medium (Fig. 1), a rotational drive (spindle motor/spindle servo) for rotating said disk storage medium, a transverse drive including a laser head (laser diode of the optical pick-up 66 transversely moved by the feed motor 72) for moving a laser of said disk drive substantially transversely with respect to said disk storage medium. Honda et al. teaches the symbol set (graphic image or character as well as the label printer driver (coordinates of the label to be printed on the optical disk with respect to that of the optical disk) (paragraph [0038]) being stored in and provided by an external device, e.g., host computer, and a processor (system control 62) communicating with the external device, the rotational drive, the transverse drive, and the laser, and wherein the

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processor uses the label printer driver (coordinates of the label with respect to the coordinate reference of the optical disk as instructed on the basis of the image data) (paragraph [0047]) to control said rotational drive and the transverse drive in order to thermally write the symbol set to the thermally-sensitive layer of the disk storage medium using the laser.

However, Honda et al. fails to teach the pre-recorded data providing the required laser power of the laser (claims 1, 7, 22, 23), and the read and use of the alignment marks for manipulating the means for heating or laser in order to write the figures (claim 11, 15, 16, 24).

Heemskerk et al. discloses an optical record carrier having pre-recorded information, which includes laser power in a system area (col. 8, lines 2-5) along with pre-recorded alignment marks (or address marks), which enables positioning of the read/write head anywhere on the still unrecorded surface of the record carrier (col. 4, lines 14-48), the recording layer being heated by a laser light during recording to produce a structural change of the recording layer.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the pre-recorded alignment marks as well as the information on the required laser power for writing in the device of Honda et al. because Heemskerk et al. teaches this to be known in the art to allow accurate positioning of the optical laser head with respect to the optical disk during the writing operation.

With regard to claims 2-4, Honda et al. teaches the image data of the label including information of the coordinates of the label printing area with respect to coordinates of the optical disk such that the translation drive of the optical pickup and the spindle motor can be controlled during the label printing, and disk orientation variable that tracks an orientation of the disk storage medium (paragraph [0040]).

With regard to claim 5, Honda et al. teaches the laser head comprising a read laser and a writing laser (enclosed in the optical pickup 66) positioned below said disk storage medium, with said writing laser being used to thermally write to said thermally-sensitive layer (18).

With regard to claim 8, Honda et al. teaches the heating step is performed by said writing laser and the loading, heating, and manipulating steps are performed if said disk storage medium is inverted (paragraph [0040]).

With regard to claim 10, Honda et al. teaches rotating the optical disk (via spindle motor), transversely moving the optical pickup containing the laser (via feed motor), tracking a transverse position of the laser (via tracking servo (78) during the label printing by the laser.

With regard to claim 19, Honda et al. further teaches the laser comprising a writing laser (the laser being used for both label writing and data recording) positioned below said disk storage medium, and further comprising the preliminary step of detecting an orientation of said disk storage medium (detecting the orientation mark 24), and wherein the heating step is performed by said writing laser and the loading, heating,

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and manipulating steps are performed if said disk storage medium is inverted (paragraph [0040]).

With respect to claim 21, Honda et al. further teaches the steps of rotating said disk storage medium, transversely moving said laser with respect to said disk storage medium, tracking a rotational position of said disk storage medium in a rotational position variable, and tracking a transverse position of said laser in a transverse position variable, wherein said rotational position and said transverse position are used by said processor for manipulating said laser with respect to said disk storage medium (Fig. 6).

***Allowable Subject Matter***

8. Claim 23 is allowed.

9. Claims 17-18, 25, 31 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is an examiner's statement of reasons for allowance: claims 17-18, 23 and 33, is patentable over the prior art patents and printed publications because of the specific ejection of the disk storage medium according to a predetermined orientation using pre-recorded digital data of the disk, which is not taught by the art of record alone or in combination.

Claim 25 is patentable over the prior art patents and printed publications because of the specific means for indicating that the disk storage medium is oriented in an

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upright or inverted position used in the claim 24 labeling apparatus, which is not taught by the art of record alone or in combination.

Claim 31 is patentable over the prior art patents and printed publications because of the specific means for test printing on the thermally sensitive layer to provide precise position information of the pattern of different colors used in the claim 29 labeling apparatus, which is not taught by the art of record alone or in combination.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



**HAI PHAM  
PRIMARY EXAMINER**

March 18, 2004